The Mineral Industry of Mauritania

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MAURITANIA

Mauritania is bounded to the north by Morocco, to the northeast by Algeria, to the west by the Atlantic Ocean, to the east and southeast by Mali, and to the south by Senegal. In 2003, population was estimated to be about 2.9 million. The country's total land and water area is about 1 million square kilometers (km^2), which is slightly larger than three times the size of New Mexico. The gross domestic product (GDP) based on purchasing power parity was estimated to be $5.3 billion in 2003 (U.S. Central Intelligence Agency, 2003§;[1] International Monetary Fund, 2004§).

Mauritania's mineral sector was dominated by iron ore mining and beneficiation. Other commodities produced in the country included cement, gypsum, and salt. Iron ore accounted for about 44% of total exports, which in 2003 were valued at $388 million (World Bank, 2004§).

Defiance Mining Corporation of Canada held a 100% interest in nine gold exploration permits in Mauritania, five of which made up the Tasiast project. Of the remaining four permits, two comprised the Karet project and two, the Ahmeyim-Tijirit project. Defiance held a 90% interest in three other permits within the Ahmeyim-Tijirit project; the remaining 10% was held by Société Arabe des Mines de l'Inchiri S.A. The total area covered by Defiance's permits was 16,000 km^2 (Defiance Mining Corporation, 2004§). In June 2003, Defiance completed a 26,000-meter (m) infill drilling program on the Tasiast property. Following the completion of the program, new measured and indicated resources increased to 12.07 million metric tons (Mt) at a grade of 3.06 grams per metric ton (g/t) gold or 37,000 kilograms (kg) (reported as 1.19 million ounces of gold). SNC Lavalin Inc. was in the final stages of completing a feasibility study at Tasiast. The company envisioned a plant operation that would process about 1.2 million metric tons per year (Mt/yr) of ore and produce an average of about 3,100 kilograms per year of gold (reported as 100,000 ounces per year). Previous metallurgical tests performed by SGS Lakefield Research Limited estimated gold recoveries to be in the range of 94% to 95% for both oxide and primary ore. SNC Lavalin expected the construction of the plant to begin in the fall of 2004 subject to the completion of a bankable feasibility study and the securing of financing. Production was expected to begin in the spring of 2006 (Defiance Mining Corporation, 2004, p. 2-6).

The Société Nationale Industrielle et Miniére (SNIM) was responsible for iron ore production and beneficiation. Sphere Investments Ltd. of Australia (SIL) had signed a joint-venture agreement with SNIM in October 2001 for the Guelb el Aouj iron ore project. The project involved the development of a new iron ore mine, a concentration plant, and a 7-Mt/yr pelletizing plant to produce direct-reduction-grade pellets for export (Sphere Investments Ltd., 2004, p. 5, 12). The company was to spend $11 million on a bankable feasibility study to earn a 50% interest in the project. The feasibility study was divided into three separate stages; Sphere would earn a 15% share at the completion of each stage. The work program for stage 1 began in 2003 at a cost of $1.3 million and included aerial survey and mapping, drilling, hydrogeology, marketing, metallurgical testwork, and relogging of existing drill cores. Stage 1 was expected to be completed by late 2004 (Sphere Investments Ltd., 2004, p. 12).

In 2003, De Beers Consolidated Mines Ltd. of South Africa ended its diamond exploration activities at the Akchar property in northwestern Mauritania. De Beers had signed a joint-venture agreement with Rex Diamond Mining Corporation of Canada (RDM) in 2000 to acquire a 60% interest in the Akchar permit. De Beers decided to relinquish the Akchar permit after conducting high-resolution airborne magnetic surveys in 2000, smaller scale airborne magnetic surveys by helicopter in 2001, and a drilling program to test for detected anomalies in 2002 (De Beers Group, 2004§). RDM in turn, reduced its exploration team and relinquished several of its own exploration permits in Mauritania. The company's focus shifted to the Touajil area (Rex Diamond Mining Corporation, 2004, p. 6).

Several international oil companies, mainly Australian, were involved in offshore exploration in Mauritania in 2003. Woodside Petroleum Ltd. of Australia operated a total of six production-sharing contracts (PSC) offshore which included areas A, B, C2, and C6, and the Chinguetti oil project, which included block 4 in area B. The Chinguetti 4-5 well was drilled in 2003, and production tests yielded an average oil production rate of about 11,500 barrels per day (bbl/d). Project approval was planned for mid-2004 (Woodside Petroleum Ltd., 2004, p. 15). Two exploration wells, Pouné and Tiof West, were also drilled during the year. The Tiof West was drilled to test the western extension of the Miocene channel system, which was found to contain gas- and oil-bearing sandstones.

On December 16, Hardman Resources announced that it had intersected a gas column of about 4 m overlying a gross oil column of about 122 m in the Tiof West well. Further appraisal drilling was scheduled for 2004. Participating companies in the Tiof West well and PSC for area B were Woodside Mauritania Pty Ltd. (35%), AGIP Mauritania BV (Agip) (35%), Hardman Resources Ltd (21.6%), Fusion Mauritania B Limited (6%), and Roc Oil (Mauritania) Company (2.4%). Woodside was the operator. The Pouné exploration well, which targeted deeper Cretaceous sandstones, was plugged and abandoned in 2003 (Hardman Resources Ltd., 2003c; Woodside Petroleum Ltd., 2004, p. 15).

On December 29, Hardman Resources announced the discovery of a gas column of more than 300 m in the Pelican-1 exploration well in block 7. The Pelican prospect was located about 150 kilometers north of the Chinguetti oilfield. The operator of the Pelican-1

[1]References that include a section mark (§) are found in the Internet References Cited section.

well was Dana Petroleum plc Ltd. (80%). The remaining interest was held by Hardman Resources Ltd. (18%) and Roc Oil (Mauritania) Company (2%) (Hardman Resources Ltd., 2003b).

The consortium led by Woodside Petroleum Ltd. entered into an agreement to purchase a pro rata entitlement share of Agip's 35% interest in PSC areas A and B offshore Mauritania. Under the agreement, Woodside initially was to acquire 100% of the share and then sell the interest entitlement to the remaining joint-venture partners. With the acquisition, Woodside's interest in area A would increase to 53.846%, and that of Hardman Resources, Fusion Mauritania, and Roc Oil would increase to 37.384%, 4.615%, and 4.155%, respectively. In area B, Woodside's interest would increase to 53.846% and that of Hardman Resources, Fusion Mauritania, and Roc Oil would increase to 33.23%, 9.231%, and 3.693%, respectively. The total cost for the acquisition of Agip's equity was expected to be about $62 million in addition to a contingent payment of up to $15 million once certain exploration, development, and production projects were completed. All transactions were expected to be completed by early 2004 (Hardman Resources Ltd., 2003a).

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TABLE 1
MAURITANIA: PRODUCTION OF MINERAL COMMODITIES[1,2]

(Metric tons unless otherwise specified)

Commodity		1999	2000	2001	2002	2003[e]
Cement		100,000	120,000	200,000	200,000 [e]	200,000
Gypsum[e]		100,000	100,000	100,000	100,000	100,000
Iron ore:						
Gross weight[3]	thousand metric tons	10,401	11,345	10,302	9,553	10,600 [4]
Iron content[e]	do.	7,475	7,500	6,700	6,200	6,890
Petroleum refinery products:[e]						
Liquefied petroleum gas	thousand 42-gallon barrels	440	440	440	-- [4]	--
Gasoline	do.	1,900	1,900	1,900	-- [4]	--
Kerosene	do.	470	470	470	-- [4]	--
Distillate fuel oil	do.	1,100	1,100	1,100	-- [4]	--
Residual fuel oil	do.	2,450	2,450	2,450	-- [4]	--
Other	do.	700	700	700	-- [4]	--
Total	do.	7,060	7,060	7,060	-- [4]	--
Salt[e]		5,500	5,500	5,500	5,500	5,500
Steel, crude		5,000	5,000	5,000 [e]	5,000 [e]	5,000

[e]Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. -- Zero.

[1]Table includes data available through October 25, 2004.

[2]In addition to the commodities listed, modest quantities of crude construction materials (clays, sand and gravel, and stone) presumably are produced, but output was not reported quantitatively. The minimill of Société Arabe de Fer et d'Acier en Mauritanie produced rebar and wire, but available information is inadequate to make reliable estimates of output levels.

[3]Reported by National Industrial and Mining Company.

[4]Reported figure.